

clearly how vain have been the prejudices, and how baseless the predictions, which condemned ships of this type as incompatible with even moderately good speeds, and as ridiculous when the attainment of high speed was contemplated. It is with no small feelings of vanity, but with a genuine pride in a great scientific triumph which we ventured to predict beforehand, that we have witnessed the *Livadia's* success. It is a success which England may well envy, and of which the Russian Government may well be proud. Its bearing upon the future of steam navigation cannot fail to be considerable even in the mercantile marine, while it is quite impossible for the war navies of the world to escape its influence. Our long-standing objections to the *Inflexible* and *Italia* types of ship are well known to our readers, the construction of such ships under the name of first-class ironclads being most trying even to the common sense, and much more to the scientific sense, of the country. With the *Livadia* in existence, and with the facilities which such great breadth as hers offers to the production of armoured ships worthy of the name, the exposure of our first-class ships to the destructive effects both of shells and of torpedoes, will not be endured. We congratulate Admiral Popoff upon the established success of the great idea which he was the first to propound, and as the idea would still have remained a mere idea but for the powerful patronage of the Grand Duke Constantine, we gladly recognise again the scientific acumen and that "courage of his opinions" which distinguish His Imperial Highness. By consenting to the trial of so great a naval experiment in a yacht of his own, the Emperor of Russia has secured a sea-palace of great speed, of unexampled accommodation, and of a freedom from rolling and pitching such as no other ship in the world enjoys.

On the last-named points—those of pitching and rolling—we have to record very remarkable results. We are informed on the best authority that in the gale in the Bay of Biscay, with waves running over twenty feet high, when ordinary vessels were seen rolling and pitching heavily, and even when the gale and the sea were at their highest, the greatest roll to leeward was 5 degrees, and that to windward 4 degrees, while the greatest pitch was 4 degrees and the greatest "scend" 3 degrees. This extreme limitation of motion was most extraordinary, excluding almost all the usual incidents of sea-life. Nothing was secured on board, and nothing fell throughout the storm. There were occasionally heavy blows of the sea under the flat shallow bow, and these caused much vibration at times; but nothing was disturbed, and even the paint is nowhere cracked throughout the wood-built cabins and palaces of the ship.

In the accident which the *Livadia* met with on her voyage from Brest to Ferrol, by striking heavily downwards upon some floating object or objects during a heavy gale in the Bay of Biscay, with a high and confused sea running, the value of water-tight subdivision has been strikingly demonstrated. The injuries done by the blows were extended by the heavy strokes of the sea under the bluff bow, and several of the forward compartments were filled. A scientific friend who inspected the bow after the compartments were pumped out in the harbour of Ferrol, informs us that in two or three places the bulk-head divisions had evidently been badly struck and made

leaky at the bottom, and in one compartment the sea was plainly visible through the broken plating. And yet nothing was known on board of these injuries when at sea beyond the fact (ascertained by "sounding") that a forward compartment of the double bottom had been somehow filled, so effectually was the ship proper preserved from all injury within the double bottom, and so little effect had the filling of the forward spaces upon the trim and behaviour of the ship! The *Livadia* is constructed of steel, and is as lightly built as our own fast steel ships of the latest date; and as a similar accident to the recent one might occur again, as it may to any ship of light draught and great buoyancy, it would no doubt be prudent to add something to the strength of the outer bottom where most exposed to strains and blows; but this is a matter of detail which we leave the naval architect to discuss. The great lesson to be derived from the incident is the immeasurable value of double bottoms and of great compartmental subdivision in sea-going structures. An ordinary large steam yacht not so subdivided might have been lost under like circumstances, and certainly would have been more or less jeopardised and more or less injured internally; in the present case not a particle of injury to the interior of the ship or to her costly fittings was sustained, and hours after the accident, with a very high and confused sea still running, the Lord High Admiral of Russia and his guests dined as safely, as easily, and almost as quietly as if he had been ashore in his summer palace of Orianda.

A MEDICAL CATALOGUE

Index Catalogue of the Library of the Surgeon-General's Office, U.S. Army. Vol. i., A—Berliński. 4to, pp. 888. (Washington: Government Printing Office.)

THE saying of Hippocrates, that art is long and time is short, is so true, not merely of medical art, but of work in general, that most working men find their lives gliding so quickly away that they do not attempt great works, and very probably would not succeed if they did so. But every now and then we come across men whose energy is so marvellous, and whose power of getting through work is so enormous, that we are struck with amazement at it. Such a man is Dr. Billings, to whose extraordinary energy and perseverance we owe the present work. This purports to be only a catalogue of the Library of the Office of the Surgeon-General of the United States Army, and Dr. Billings takes care to call attention to the fact that it is not a complete medical bibliography, and that any one who relies upon it as such will commit a serious error. "It is," he says, "a catalogue of what is to be found in a single collection; a collection so large, and of such a character, that there are few subjects in medicine with regard to which something may not be found in it, but which is by no means complete." It is not, however, a mere catalogue in the ordinary sense of the word, inasmuch as its contents are not confined to the names and titles of books and their authors. It is also a catalogue of subjects, so that any one wishing to read up a particular subject will find under the appropriate heading a list of the chief works bearing upon it. Nor is this all. There are other catalogues in which a similar arrangement has not only been

attempted but successfully carried out. But this catalogue differs from all others inasmuch as it is the only compilation in which the herculean task of arranging in proper order the contents, not only of books, but of medical periodicals, has ever been essayed. To any person who is aware of the enormous extent of medical periodical literature, and who has had personal experience of the time and labour involved in looking up a few references, it seems almost incredible that any man should have had the courage to venture upon the task which Dr. Billings has successfully accomplished. To give the faintest idea of the work, we take a single heading—Amputation, and we find, besides a large number of works and references under this title itself, several other headings on the treatment of amputation, cases and statistics of amputation, double amputation, history of amputation, intra-uterine amputation, methods of amputation, multiple amputation, sequelæ and after treatment of amputation, spontaneous amputation, amputation in the course of disease, amputation in gunshot wounds, amputation in infants, amputation in joints, amputation in pregnancy, carpal and metacarpal amputations, tarsal and meta-tarsal amputation, amputations at ankle-joint, amputations of arm, amputations of breast, amputations at elbow-joint, amputations of fingers and toes, amputations of foot, amputations of fore-arm, amputations of hip-joint, amputations of knee-joint, amputations of leg, amputations at shoulder-joint, amputations of thigh, amputations of toes, amputations at wrist-joint, besides cross references to Amputation considered under other heads, such as Gangrene, Hospitals, Surgery, Umbilical Cord, Arteries, Limbs, Osteomyelitis, Spinal Cord, Stumps, Frost-bite, Pregnancy, Pyæmia, Elbow-joint, Breast, Tibia, Ankle-joint, Astragalus, Aneurisms, Arm, Artery, Humerus, &c. On taking a single one of these headings, we find under it nineteen books, and on then attempting to count the references to periodical literature we go along until we come to the end of the letter C, and then stop in despair, for we have already got a hundred references, and find that to proceed to the end of the alphabet will be a work of both time and labour. The wearisomeness of counting the number of references in a small fraction of one sub-head may give the reader some notion of the labour involved in hunting out and writing down the materials, and yet, after all, such idea would be very imperfect, for the labours of Dr. Billings and his assistants have not consisted merely in giving these references. A much greater amount of time and trouble has probably been consumed in the consideration of what should be left out than by the labour of arranging and compiling what should be put in, for in indexing journals and transactions the general rule which they have followed has been that only original articles should be taken, though occasionally important papers in several periodicals, and reprints when the originals have not been in the library, have been indexed. In describing the arrangement of the book we cannot do better than quote Dr. Billings' own words:—

"This catalogue includes both authors and subjects—the names being arranged in dictionary order in a single alphabet. Under the subject-headings are included the titles of original articles in the medical journals and transactions contained in the Library, for which reason the Catalogue is commonly spoken of by those who are

familiar with it as the 'Index-Catalogue,' and the name has been adopted as being brief and at the same time distinctive.

"The form adopted is essentially that shown in the 'Specimen Fasciculus' published in 1876, and it has been selected after a careful consideration of the criticisms and suggestions brought out by that fasciculus.

"The great majority of physicians, and especially of American physicians, who have given their opinion, have expressed a decided preference for this form; and although a librarian might find a complete separation of the catalogue of authors from that of subjects a little more convenient, the demand on the part of those who are to use it is very decidedly for the combination here given.

"The following points have been kept in view in the selection and arrangement of the subject-headings:—

"I. Those titles have been selected for subjects for which it is presumed that the majority of educated English-speaking physicians would look in an alphabetical arrangement.

"II. Where there is doubt as between two or more subject-headings, cross-references are given.

"III. Where both an English and a Latin or Greek word are in common use to designate the same subject, the English word is preferred, and references are given from the others.

"IV. As a rule, substantives rather than adjectives are selected for subject-headings. Exceptions occur to this in anatomical nomenclature, as 'Lachrymal duct'; 'Thyroid gland.'

"V. In names of subjects derived from personal names, the latter precede, as 'Addison's disease'; 'Eustachian tube.'

"VI. Local diseases or injuries are as a rule placed under the name of the organ or locality affected, as 'Kidney (*Abscess of*)'; 'Neck (*Wound of*). There are exceptions to this, in accordance with Rule I., e.g., 'Abscess (*Perinephritic*).'

"VII. Cases in which one disease is complicated with or immediately followed by another are placed under the name of the first disease with the sub-heading '*Complications and Sequelæ*.'

"VIII. When the main subject of an article is the action of a given remedy in general, or its action in several diseases, it is indexed under the name of the remedy; but if it relate to its action in but one disease, it is indexed under the name of the disease.

"IX. The amount of sub-division made under the principal subject-heads depends very greatly upon the number of references to be classed.

"X. As a rule, the references are given from general to more special heads, but not the reverse. It is presumed, for instance, that those who wish to consult the literature on 'Aphasia' will turn to 'Brain (*Diseases of*)' and 'Nervous System (*Diseases of*),' as well as to 'Aphasia,' without being directed to do so by a cross-reference under the latter title.

"XI. Under the name of an organ will be found the books and papers relating to the anatomy and physiology of that organ. Following this usually come the abnormalities and malformations of the organ, then its diseases, then its tumours, and lastly, its wounds and injuries.

"Anonymous works or papers are entered in regular order under the first word of the title not an article or preposition. Russian and Japanese titles are transliterated, and a translation is usually appended. Greek names are transliterated for the sake of uniformity in type.

"In indexing journals and transactions, the general rule has been that only original articles should be taken, but occasionally important papers are indexed in several periodicals; and sometimes a reprint is indexed when the original is not in the Library.

"The List of Abbreviations of Titles of Periodicals prefixed to this volume shows the journals and transactions which have been indexed to the present time. The right-hand column exhibits the volumes or numbers possessed by the Library, and, negatively, the deficiencies, which it is my earnest desire to fill. The List of Abbreviations is separately paged in order that it may be bound by itself, if desired, for use with succeeding volumes.

"Some of the abbreviations of names of places, especially in the United States, might have been still further shortened if the Catalogue had been intended for use only in this country. But an analysis, by subjects, of so large a collection of medical periodicals is, necessarily, useful in St. Petersburg, for example, as well as in Washington, its measure of utility in any locality being the extent of the collection of medical periodical literature therein. Intelligibility to foreigners, therefore, has been regarded as a quality essential to the abbreviations in question.

"In indicating pagination, the rule is that where the article does not exceed two pages in extent the first page only is given. If it exceed two pages, both the first and last pages are noted.

"The work of preparing this Catalogue began in 1873, and has been carried on persistently, and as rapidly as the amount of clerical aid available and the nature of the work would permit.

"The present volume includes 9090 author-titles, representing 8031 volumes and 6398 pamphlets. It also includes 9000 subject-titles of separate books and pamphlets, and 34,604 titles of articles in periodicals."

The rapid progress of every branch of science, medical and otherwise, and the proportionate, or perhaps we ought almost to say disproportionate, increase of medical and scientific periodical literature, render it exceedingly difficult for the student to keep himself *au courant* with the newest discoveries. The Royal Society's Catalogue of scientific papers conferred an inestimable boon upon scientific men, but it left much to be desired, inasmuch as it gave only the names of authors, and contained no index of subjects. Sometimes, too, its strict confinement to periodical literature is felt as an imperfection, for in cases where discoveries have been published in the form of pamphlets of a few pages, one searches through the Catalogue in the vain expectation of finding them. However, we have hitherto had nothing at all resembling it in medical literature, but now we possess the first volume of a work which greatly excels it both in scope and size. Such defects as the volume possesses are due to the imperfections of the library of which it is a catalogue, and it is to be hoped that all those (and their name must be legion) who profit by the use of this remarkable production, will do their best to enable Dr. Billings to make good the deficiencies.

It is clear that, however complete any catalogue may be at the time of its publication, the constant appearance of new books and pamphlets day by day and month by month must render it more and more defective. In order to supplement this catalogue, and prevent this gradually increasing deficiency from being felt as an evil, Dr. Billings and Dr. Fletcher are now publishing the *Index Medicus*, a monthly classified record of the current medical literature of the world. This is published by F. Leypoldt in New York, and by Trübner and Co. in London. The great labour and expense involved in getting out this monthly index require for it a large circulation. At present, we believe, it is published at a

loss, and an increased number of subscribers is urgently requested in order to permit its continuance. We therefore trust that every one who finds his time and labour saved by this Index-Catalogue will show his gratitude to Dr. Billings and those who have assisted him, not only by helping to supply the wants of the library at Washington, but by subscribing regularly to the *Index Medicus*.

We cannot conclude this brief notice without congratulating the United States Government on having in its service such men as Dr. Billings and his able assistants, Doctors Fletcher, Yarrow, and Chadwick, nor without expressing the thankfulness which every medical man owes to them for the great boon they have conferred on medicine in printing and issuing the present Index-Catalogue.

THE PHILOSOPHY OF LANGUAGE

Max Müller and the Philosophy of Language. By Ludwig Noiré. (London: Longmans, Green, and Co. 1879.)

THE substance of this work has already appeared in the German periodical *Nord und Süd*, and the author here tells us that he has reproduced it in an enlarged form and in an English dress in order to do full justice to Max Müller's great merits in clearing the way "for future investigators." He considers that eminent services have been rendered to the cause of linguistic studies by the writings of the illustrious Oxford professor, and four out of the five chapters comprising this treatise are mainly occupied in putting this somewhat obvious fact in the clearest light. But he holds, in common probably with Max Müller himself, that the problem of the ultimate origin of articulate speech has not been solved in the brilliant and deservedly popular "Lectures on the Science of Language." Many difficulties are there removed, much light is thrown upon a great number of obscure points, several abstruse questions are treated with an amazing wealth of illustration, bringing them home to the meanest capacity, and sundry popular views, notably those stigmatised as the "Pooh-pooh" and "Bow-wow" theories, are either exploded, or reduced to their proper value. But the mystery of origin, the inexplicable ultimate residuum of roots, forming the constituent elements of all speech, remains almost unassailed, though distinct service has undoubtedly been done by narrowing down the question to this one issue. A still greater service is done when the gifted writer emphatically declares that these roots "are not, as is commonly maintained, merely scientific abstractions, but they were used originally as real words." This gave the death-blow to the Platonic "types," ideas, metaphysical entities and concepts which had still continued to obscure the subject, and block the way like so much mediæval rubbish. Herr Noiré aptly compares them to the *ova*, whence all animal and vegetable life. "By their development and uninterrupted growth all the known languages of the world have reached their marvellous structure, and become the body of reason and the instrument of mind" (p. 55).

In the last chapter, which will doubtless be read with the greatest curiosity, the author takes up the subject where Max Müller had left it, and develops the theory on